



US005177476A

United States Patent [19]

[11] Patent Number: 5,177,476

DiSanto et al.

[45] Date of Patent: Jan. 5, 1993

[54] METHODS OF FABRICATING DUAL ANODE, FLAT PANEL ELECTROPHORETIC DISPLAYS

[75] Inventors: Frank J. DiSanto, North Hills; Denis A. Krusos, Lloyd Harbor; Frederic E. Schubert, Shoreham, all of N.Y.

[73] Assignee: Copytele, Inc., Huntington Station, N.Y.

[21] Appl. No.: 746,865

[22] Filed: Aug. 19, 1991

Related U.S. Application Data

[63] Continuation of Ser. No. 440,787, Nov. 24, 1989.

[51] Int. Cl.⁵ G09G 3/34

[52] U.S. Cl. 340/787; 359/296

[58] Field of Search 340/787; 359/296; 204/299 R; 430/20; 428/1

References Cited

U.S. PATENT DOCUMENTS

4,522,472 6/1985 Liebert et al. 359/296
4,655,897 4/1987 DiSanto et al. 359/296

4,680,103 7/1987 Beilin Solomon I. 359/296
4,686,524 8/1987 White 359/296
4,742,345 5/1988 DiSanto et al. 340/752
5,053,763 10/1991 DiSanto et al. 359/296
5,077,157 12/1991 DiSanto et al. 359/296

Primary Examiner—Ulysses Weldon

Assistant Examiner—Matthew Luu

Attorney, Agent, or Firm—Arthur L. Plevy

[57] ABSTRACT

There is disclosed methods for fabricating electrophoretic displays. Essentially the methods employ selective materials such as different metals which are capable of being etched by different etchants. In this manner, a laminate is provided to form a grid matrix which is insulated from a cathode matrix which grid matrix is also insulated from a second anode matrix. The entire display utilizes a local or second anode and a remote anode to further control pigment particle migration. The display is fabricated by two methods both of which employ selective etching of the parallel line type of display electrodes which constitute a cathode, a grid and a local anode.

10 Claims, 2 Drawing Sheets

